



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

A CHAPTER ON CUTTLE-FISHES.*

BY LUCIE L. HARTT.

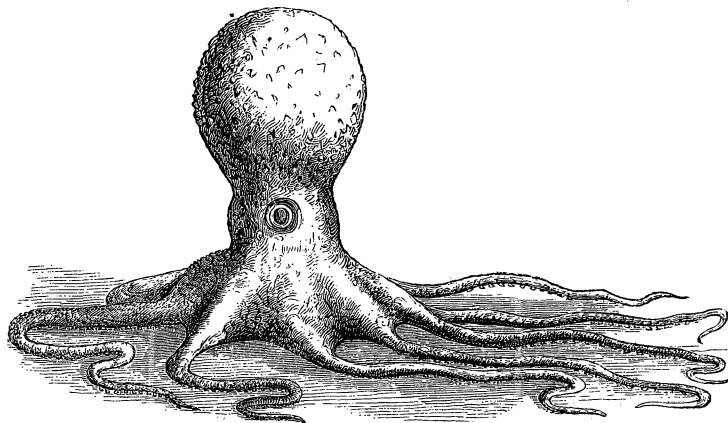


Fig. 45.

It was during my first visit to Brazil, that one day, while busily engaged in examining a reef at a little town on the coast called Guarapary, my eye fell on an object in a shallow tide-pool, packed away in the crevice of the reef, which excited my curiosity. I could see nothing but a pair of very bright eyes; but, concluding that the eyes had an owner, I determined very rashly to secure him. I had been handling corals and seemed to have forgotten that all the inhabitants of the sea are not harmless. I put my hand down very quietly so as not to ruffle the water, when, suddenly, to my surprise, it was seized with a pressure far too ardent to be agreeable, and I was held fast. I tugged hard to get away, but this uncivil individual, whoever he was, evidently had as strong a hold on the rocks as he had on my hand, and was not easily to be persuaded to let go of either. At last, however, he became convinced that he must choose between

*The facts herein narrated were drawn from one of my note-books, and were an actual experience of mine. The story is told in the first person for obvious reasons.—C. F. HARTT.

us, and so let go his hold upon the rocks, and I found clinging to my right hand, by his long arms, a large octopod cuttle-fish, resembling the one figured at the head of this article, and I began to suspect that I had caught a Tartar. His long arms were wound around my hand, and these arms, by the way, were covered with rows of suckers, somewhat like those with which boys lift stones, and escape from them was almost impossible. I knew that this fellow's sucking propensities were not his worst ones, for these cuttle-fishes are furnished with sharp jaws, and they know how to use them too, so I attempted to get rid of him. But the rascal, disengaging one slimy arm, wound it about my left hand also, and I was a helpless prisoner. In vain I struggled to free myself,—he only clasped me the tighter. In vain I shouted to my companion,—he had wandered out of hearing. I was momentarily expecting to be bitten, when the "*bicho*" suddenly changed his mind. I was never able to discover whether he was smitten with remorse and retired with amiable intentions, or whether he only yielded to the force of circumstances. At any rate he suddenly relinquished his hold upon my hands and dropped to the sand. Then raising himself on his long limsy arms, he stalked away towards the water, making such a comical figure, that in spite of my fright I indulged in a hearty laugh. He looked like a huge and a very tipsy spider, staggering away on his exceedingly long legs.

The cuttle-fish belongs to the Mollusks, a branch of the animal kingdom distinguished for its members being built on the plan of a sac, and to which Mr. Hyatt has applied the more appropriate name of *Saccata*. The cuttle-fishes are distinguished from all the other Mollusks, such as snails, clams, etc., by having a large head, a pair of large eyes, and a mouth furnished with a pair of jaws, around which are arranged in a circle, eight or ten arms furnished with suckers.

In the common cuttle-fish or squid of our coast, the body, which is long and narrow, is wrapped in a muscular cloak

or mantle, like a bag fitting tightly to the back but loose in front. It is closed up to the neck, where it is open like a loosely fitting overcoat, buttoned up to the throat. Attached to its throat, by the middle, is a short tube open at both ends. This tube, or siphon as it is called, is fastened to its throat, and can be moved about in any direction.

The animal breathes by means of gills, which are attached to the front of the body inside the cloak and look like the ruffles of a shirt bosom. By means of these gills the air contained in the water is breathed, and they answer the same purpose for the cuttle-fish that our lungs do for us.

In order to swim, the animal swells out the cloak in front so that the water flows in between it and the body. Then it closes the cloak tightly about the neck so that the only way the water can get out is through the siphon. Then it contracts very forcibly its coat, which, it must be remembered, is a part of the animal, and the water is driven out in a jet from the siphon under the throat, and the body is propelled in the opposite direction; that is, backward like a rocket through the water. This siphon is flexible like a water-hose, and can be bent so as to direct the stream not only forward, but sidewise and backward, so that the animal can move in almost any direction, or turn somersets with perfect ease, and so rapidly do some cuttle-fishes swim that they are able to make long leaps out of the water. Usually, however, the animal swims backward, with its long arms trailing behind. Our common cuttle-fish of this coast has, in addition to its eight arms, two long slender tentacles which may be withdrawn into the body. The tail is pointed, and furnished with a fin on each side.

The Octopods, to which the Brazilian cuttle-fish (Fig. 45) belongs, have round purse-like bodies, and eight arms united at the base with a web, and they swim by opening and shutting their arms like an umbrella; in this mode of swimming they resemble the jelly-fishes.

The paper Nautilus is nothing in the world but a female

cuttle-fish that builds a shell. There was a very pretty story told of her habits, by Aristotle, the old Greek naturalist, which every one believed until quite lately. He said that she rode on the top of the waves, seated in her boat-like shell, and spreading her broad arms to the winds for sails. But unfortunately the story has no foundation in fact. She either crawls about on the bottom of the sea, or swims quite like any other cuttle-fish, shell foremost, only occasionally coming to the surface. Strangely enough she holds the two broad hand-like extremities of the arms against her body, and it is the inside of these arms that secrete the paper-like shell, which is only a sort of cradle for her eggs. Not so with the pearly Nautilus, which is furnished with a beautiful, coiled up, pearly shell, formed on the outside of the animal. This shell is divided into numerous chambers, and the animal living in the outer one builds a partition across the back part of it as the shell grows.

Cuttle-fishes are sometimes used for food by the Brazilians, and different species may be seen in the markets, where one frequently finds them still alive. Sometimes, as he stoops to examine one, its body is suddenly suffused with a deep pinkish glow. Before he has time to recover from his surprise this color fades, and a beautiful blue takes its place as rapidly as a blush sometimes suffuses a delicate cheek. The blue, perhaps, is succeeded by a green, and then the whole body becomes pink again. One can hardly conceive anything more beautiful than this rapid play of colors, which is produced by the successive distention of sets of little sacks containing fluids of different colors, which are situated under the skin.

The cuttle-fish is also furnished with a bag containing an inky fluid, which, when the animal is attacked or pursued, it ejects into the water, thus completely blinding its adversary and effectually covering its retreat. It is from this fluid that the color *sepia* is made. Beside carrying an ink-bottle, some species of cuttle-fish are provided with a long,

delicate, horny pen, which forms a sort of stiffener to the back. In some species the pen is hard, thick and broad, and the cuttle-fish bone of commerce is a pen of this kind. The species found in our waters is very small, and not at all dangerous, being barely large enough to draw blood from the hand; but in the tropical seas they are very large, powerful and dangerous.

The cuttle-fish is the original of Victor Hugo's devil-fish, so vividly described in the "Toilers of the Sea." If the devil-fish were a beneficent creation, I should be sorry to destroy your faith in it; but as it is, I believe it will be rather a relief than otherwise to know that in some important respects, Victor Hugo's story of it is a fable. The Kraken was a mythical cuttle-fish of fabulous size.

SOMETHING ABOUT CRABS.

BY REV. SAMUEL LOCKWOOD.

WELL do we remember our boyish sport catching crabs. A stout string, a piece of fresh offal, a hand-net, and another boy with us and a good place on an anchored raft,—then for fun. The meat was dropped to the bottom; the cancerous varmint took hold, and kept hold; then we slowly drew the bait up, and, when within a few inches of the surface, chum adroitly slipped the scoop-net under. But would'nt "spider-legs" run up the sides of the net! It needed all our alertness to secure the prey. What a luxury those crab dinners! But what was that pleasure compared to the delight of our riper years, when we made the acquaintance of the inner life of these entertaining people, Lupa, Libinia, Pagurus, and others. We have spent many health-giving days with them at the "watering-places," and many hours in the drawing-